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ABSTRACT

This discussion considers the process of subject raising, which takes the constituent subject out of the complement clause and makes it a constituent of the matrix clause and the occurrence of this process in Japanese and in other subject-object-verb (SOV) languages. The first part of the paper demonstrates why subject raising is not a common syntactic device in SOV languages and why it is difficult to prove that the transformation exists in these languages. The author suggests that there is, however, one sentence pattern in Japanese where subject raising is involved; the remainder of the paper is devoted to presenting evidence to prove the existence of this phenomenon. (VM)

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Evidence for Subject Raising in Japanese

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§1. Introduction

In English, there is a process, called Subject Raising, that takes the constituent subject out of the complement clause, and makes it a consituent of the matrix clause. For example, observe the following pairs of sentences:

(1) a. I expect that Mary will come.
    b. I expect Mary to come.
(2) a. That Mary will come is likely.
    b. Mary is likely to come.

In (1a) and (2a), Mary is the subject of the object complement and the subject complement, respectively. On the other hand, in (1b) and (2b), it is the object and the subject, respectively, of the matrix sentence.[1] Subject Raising is a common syntactic device in SVO languages, but its presence is not conspicuous in SOV languages.

In a previous paper (Kuno, 1972), I attempted to account for the language universal that all VSO languages mark embedded clauses at clause-initial position, and that most SOV languages do so at clause-final position.[2] The explanation lies in the fact that from the point of view of speech perception, self-embedding (but not right-branching or left-branching) and juxtaposition of conjunctions of the same kind both greatly reduce the intelligibility of sentences. From this point of view, it is easy to show that the clause-final positioning of conjunctions for VSO languages and the clause-initial positioning of conjunctions for SOV languages would guarantee that self-embedding and conjunction juxtaposition would result in case a subordinate clause contains another, smaller subordinate clause. On the other hand, if conjunctions are placed at clause-initial position in VSO languages, and at clause-final position in SOV languages, self-embedding and conjunction-juxtaposition will arise only in rare circumstances.[3]

Verb-medial languages (namely, SVO languages) have an ambivalent status --- they are like SOV languages in that the subject appears to the left of the verb, but they are also like VSO languages in that the object appears to the right of the verb. Therefore, if they mark clause-initial boundaries, as in VSO languages, self-embedding and conjunction-juxtaposition will arise on the subject position, and

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if they mark clause-final boundaries, as in SOV languages, the same difficulty will arise on the object position. In actuality, many of the SVO languages have opted to mark clause-initial boundaries, thus giving a heavy handicap to subject complements. Thus, these languages yield sentences that are difficult to comprehend when the subject involves subordinate clauses. Among well-known examples of sentences of this type are:

(3) a. *That that the world is round is obvious is not certain.
b. *The cheese the rat the cat chased ate was rotten.

Those SVO languages that have the features of VSO languages (the clause-initial marking of embedded clauses and the postnominal positioning of relative clauses) make up for the above handicap by using devices such as Subject Raising and Extraposition. An example of Subject Raising from the subject complement has already been given in (2). The following is an instance of Extraposition from the subject complement:

(4) a. <u>That Mary will come</u> is likely.
b. <u>It</u> is likely <u>that Mary will come</u>.

From the above point of view, it is not surprising that those SVO languages (e.g., English) that have Subject Raising from the object complement always have Subject Raising from the subject complement, but that there are languages which have Subject Raising from the subject complement, but not from the object complement.[4,5] From the same point of view, it is not surprising that Subject Raising is not a common transformational device in SOV languages. Namely, since SOV languages use clause-final conjunctions both for subject and object complements, as is dictated by the principle of economy on human temporary memory, there is no need for using a special device, such as Subject Raising or Extraposition, to reduce the burden on the temporary memory.

There is another reason why Subject Raising is not common in SOV languages. Note in (2) that the predicate of the subject complement has been postposed to the position to the right of the matrix verb. It seems that this word order change is acceptable because English has the "V + Infinitive" construction independent of this rule. For example,

(5) a. I want to go there.
b. I am glad to have met you.

On the other hand, SOV languages do not allow the "V + Infinitive" pattern in general, with the infinitive following the main verb. Therefore, the predicate of the subject complement cannot be postposed to the right of the matrix verb. Thus, even if Subject Raising has applied to the pattern of (5a), the constituent predicate would have to stay where it used to be, yielding a pattern that is not too different from the one before the application of the rule:

(6) a. [Mary come-will] that likely-is.
b. Mary come-to likely-is.

The same holds true for Subject Raising from the object complement in SOV languages.

What I have observed in the preceding paragraph should apply to the raising phenomenon from the object complement in SVO languages, as well. Note that there is no word order change of meaningful elements between (1a) and (1b). Why is it, then, that English has some verbs that allow raising from the object complement? It seems that reducing the burden on the human temporary memory is not the only purpose of Subject Raising. Another purpose seems to be to make the constituent subject an element that is movable to the position usually reserved for the topic of the sentence. For example, observe the following sentences:

(7) a. Mary is expected to come.
b. Mary, I expect to come, but Bill, I don't.

From the above point of view, it is not surprising that English, for example, has many verbs that allow Subject Raising from the object complement on the condition that the raised subject be preposed by some later transformations:[6]

(8) a. *They suppose Mary to come.
b. Mary is supposed to come.

(9) a. *They say Mary to be rich.
b. Mary is said to be rich.

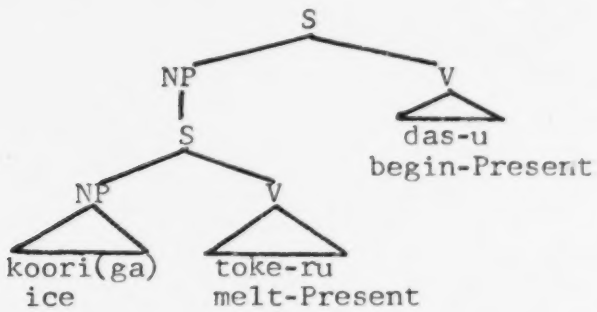
If Subject Raising from the object complement in English exists at least partly for the purpose that I have described above, in spite of the fact that there is no word order change effected by the transformation, then, there is no reason why SOV languages should not have the same transformation. There is one factor, however, which makes it difficult to prove that Subject Raising exists in SOV languages. That is, many SOV languages have a process,

called Verb Raising, that takes the main verb of the embedded clause and attaches it to the matrix verb as the stem of the compound verb. For example, observe the following:

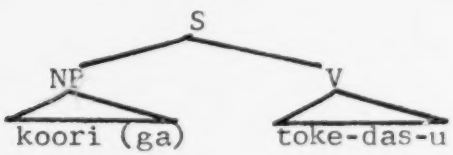
(10) Koori ga toke-dasu.
ice melt-begin

'Ice begins to melt.'

(11) a. Deep Structure



b. Derived Structure

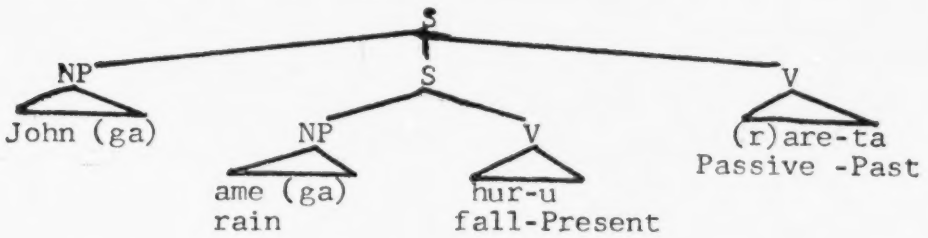


Starting from the deep structure informally shown in (11a), the tense marker -ru is first deleted. Next, the verb stem toke 'melt' is attached to the left of das 'begin' according to the general principle that all tenseless verbs must be attached to the left of the matrix verb. The derived form toke-das 'begin to melt' behaves as a single verb for all later transformations. Now, since the predicate has disappeared, the subject complement loses its clause-hood due to the tree-pruning convention, and the structure shown in (11b) results. Note that it is not necessary to have a special transformation for raising koori 'ice' out of the constituent clause.[7]

Similarly, observe the following example of adversity passive in Japanese.

(12) John ga ame ni hur-are-ta.
rain by fall-Passive-Past
'John was rain on. John was adversely affected by the rain falling.'

(13) a. Deep Structure



b. Derived Structure

It is usually said that ame (ga) 'rain' is raised from the constituent clause with ni attached to it. However, the raising of hur 'fall' by Verb Raising, which is needed anyway, would cause the disappearance of the S-node of the constituent clause, thus effectively causing the raising of ame. The attachment of ni to ame is needed, but the example does not show a need for Subject Raising.

There is yet another factor which makes it difficult to prove that Subject Raising exists in certain SOV languages. Observe the following examples from Japanese:

(14) John ga kuru koto ga kimatte imasu.
come that determined is

'It is determined that John will come.'

The sentence seems to be ambiguous between the two interpretations shown below:

(15) a. [John ga kuru koto ga] [kimatte imasu].
'It is determined that John will come.'
b. [John ga] [kuru koto ga kimatte imasu].
'It is John for whom it is determined that he will come.'

What is crucial is the second interpretation. John ga in this interpretation has the definite "exhaustive-listing" interpretation (namely, that of 'John and only John'), which is obligatory only for main clause subject NP-ga of stative predicates. However, this fact does not automatically lead to the conclusion that (15b) is derived from (15a) by raising the subject of the subject complement. This is

because there is some likelihood that (15b) is derived from the deep structure corresponding to

(16) [John]$_{\text{theme/focus}}$[[John (ga) kuru koto (ga)] [kimatte imasu]]

The sentence initial noun phrase in (16) represents either the theme or the focus of the sentence depending upon whether wa or ga is attached to it. According to this analysis, (15b) is derived not by Subject Raising, but by simply deleting the subject John ga of the sentential subject under identity with the focus of the sentence.[8] Thus, for those SOV languages that have special case markers for the theme and focus of sentences, whether patterns of (15b) involve Subject Raising or not depends upon whether the theme and the focus exist as such in the deep structure, or whether they are obtained by movement transformations, and in the latter case, whether what appears to be a case of Subject Raising is simply a part of a more general process of Thematization and Focalization. Needless to say, these are difficult questions for which there are at present no clearcut answers.

§2. Subject Raising in Japanese

In the previous section, I have shown why Subject Raising is not a common syntactic device in Japanese and other SOV languages, and why it is difficult to prove that the transformation exists in these languages. There is, however, one sentence pattern in Japanese which clearly shows that Subject Raising is involved. Observe the following sentence pairs:

(17) a. John wa [Mary ga baka da] to omotte ita.
fool is that thinking was
'John thought that Mary was a fool.'
b. John wa Mary o [baka da] to omotte ita.

(18) a. John wa [Mary ga hannin da] to danteisita.
culprit is that concluded
'John concluded that Mary was the culprit.'
b. John wa Mary o [hannin da] to danteisita.

I will first give evidence that shows that, while Mary ga of (a) is an element of the constituent clause, Mary o of (b) is an element of the main clause.

§2.1 Evidence for Subject Raising

A. Case Marker: First, the fact that Mary in (17b) and (18b) is marked with the accusative particle o gives strong evidence that it does not occupy the subject position of the embedded clause.

B. Adverb Placement: Due to the relatively free word order in Japanese, adverbs can be positioned in various places in the sentence. For example, observe the following:

(19) a. Orokanimo, John wa sore o siranakatta.
stupidly it knew-not
'Stupidly, John did not know it.'
b. John wa, orokanimo, sore o siranakatta.
c. John wa sore o, oroknaimo, siranakatta.

However, adverbs that are constituents of main clauses cannot be placed inside clauses that are embedded in the main clauses. Therefore, the following sentence is ungrammatical in the intended reading:

(20) *John wa [Mary ga orokanimo tensai de aru]
stupidly genius is
koto o siranakatta.
knew-not
'Stupidly, John did not know that Mary was a genius.'

Let us examine how (17a) behaves with respect to the above feature of Adverb Placement. Observe the following sentences:

(21) a. Orokanimo, John wa [Mary ga tensai da]
stupidly genius is
to omotte ita.
that thinking was
b. John wa orokanimo [Mary ga tensai da] to omotte ita.
c. John wa [Mary ga tensai da] to, orokanimo omotte ita.
d. *John wa [Mary ga orokanimo tensai da] to omotte ita.

The grammaticality of (21a,b,c) and the ungrammaticality of (21d) are consistent with what we have observed before. Namely, adverbs that modify the matrix verb cannot be placed inside subordinate clauses. The ungrammaticality of (21d) shows that Mary ga tensai da is an embedded clause.

Contrast the above with the following sentences:

(22) a. Orokanimo, John wa Mary o tensai da to omotte ita.
b. John wa orokanimo Mary o tensai da to omotte ita.
c. John wa Mary o tensai da to orokanimo omotte ita.
d. John wa Mary o orokanimo tensai da to omotte ita.

The sentences of (22) are different from those of (21) only in that Mary o is used in the place of Mary ga. Note that (22d), with orokanimo between Mary o and tensai da, is a grammatical sentence. This fact stands in a marked contrast with the fact that (21d) is ungrammatical. This seems to show that Mary o tensai da does not form a subordinate clause, and that Mary o and tensai da are both constituents of the matrix clause. The same contrast is observable in the following pairs also.

(23) a. *John wa Mary ga orokanimo hannin da to
culprit is
danteisita.
concluded
'John concluded stupidly that Mary was the culprit.'
b. John wa Mary o orokanimo hannin da to danteisita.

(24) a. *John wa Mary ga suguni hannin da to
immediately
suiteisita.
guessed
'John guessed immediately that Mary was the culprit.'
b. John wa Mary o suguni hannin da to suiteisita.

In case the nature of the main and constituent verbs are such that a given adverb can modify either of the two, ambiguity arises for the pattern of the (b) sentences above, but not for the pattern of the (a) sentences.

(25) a. John wa Mary ga mada kodomo da to sinzite iru.
still child in that believing is
'John believes that Mary is still a child.'
b. John wa Mary o mada kodomo da to sinzite iru.
(i) 'John believes that Mary is still a child.'
(ii) 'John still believes that Mary is a child.'

C. Word Order Inversion: Nonsubject elements in the sentence can be preposed rather freely to the pre-subject position by the scrambling rule. However, it is not possible to prepose the subject of the embedded clause to the left of the matrix subject. Thus, although (26b) is grammatical, (27b) is ungrammatical in the intended reading:

(26) a. John wa Bill ni Mary o syookaisita.
to introduced
'John introduced Mary to Bill.'
b. Mary o John wa Bill ni syookaisita.

(27) a. John wa [Mary ga tensai de aru] koto o
genius is
siranakatta.
knew-not
'John did not know that Mary was a genius.'
b. *Mary ga, John wa tensai de aru koto o
siranakatta.

Similarly, (28b) is ungrammatical.

(28) a. John wa Mary ga tensai da to omotte ita.
genius is thinking was
'John thought that Mary was a genius.'
b. *Mary ga, John wa tensai da to omotte ita.

On the other hand, note that (29b) is grammatical

(29) a. John wa Mary o tensai da to omotte ita.
b. Mary o John wa tensai da to omotte ita.

It seems that the above phenomenon can be accounted for most naturally by assuming that Mary ga in (28a) is a constituent of the embedded clause, but that Mary o in (29a) is a constituent in the matrix sentence.[9]

D. Quantifier Scope: Observe the following sentence:

(30) Dareka ga minna o mihatte ita.
someone all watching was
'Someone was watching all.'

The predominant reading of this sentence is

(31) a. There was someone who was watching all.

However, it is not impossible to obtain the secondary reading, as shown in (31b), although this reading is very weak.

(31) b. For each person, there was someone who was watching him.

Similarly, (32) is ambiguous between (33a) and (33b):

(32) Dareka ga minna o aisite iru.
someone all loving is

(33) a. There is someone who loves all.
b. For each person, there is someone who loves him.

Thus, it seems that the rule for interpreting two quantifiers Q1 and Q2 in a simplex sentence is:

(34) a. Predominant Reading: Interpret Q1, and then Q2.
b. Secondary and Weak Reading: Interpret Q2 first, and then Q1.

When the second quantifier is in the subordinate clause, the secondary reading shown in (34b) is impossible. For example,

(35) Dareka ga [minna ga sinda] koto o siranakatta.
someone all died that knew-not

only means (36a). It is not possible to obtain the reading of (36b) for the sentence.

(36) a. There was someone who did not know that all had died.
b. For each person, there was someone who did not know that he had died.

Similarly, (37) means (38a), and not (38b).

(37) Dareka ga [minna ga baka da]to omotte iru.
someone all fool is that thinking is

(38) a. There is someone who thinks that all are stupid.
b. For each person, there is someone who thinks that he is stupid.

Now, consider (39):

(39) Dareka ga minna o baka da to omotte iru.

The predominant reading of this sentence is that of (38a). However, it is not impossible to assign to it the interpretation of (38b). The above phenomenon can be accounted for most naturally, it seems, by assuming that the second quantifier minna (o) 'all' in (39) is in the same S as the

first quantifier dareka 'someone'. Again, this assumption is consistent with the proposed analysis that (37) is derived from (35) by raising the constituent subject out of the embedded clause.

E. No-Koto Incorporation: In Japanese, when the object of feeling, thinking, and saying verbs is human, no koto '(someone)'s matter' appears optionally after the noun phrase for the human. Observe the following pairs of sentences:

(40) a. John wa Mary o nikunde iru.
hating is
'John hates Mary.'
b. John wa Mary no koto o nikunde iru.

(41) a. John wa Mary o aisite iru.
loving is
'John loves Mary.'
b. John wa Mary no koto o aisite iru.

(42) a. John wa Mary ga suki rasii yo.
fond-of seem
'John seems to be fond of Mary.'
b. John wa Mary no koto ga suki rasii yo.

The (a) and (b) sentences above are synonymous, although it seems that the (b) sentences are the more indirect way of saying what the (a) sentences say.

The appearance of no koto is limited to the object position of the feeling, thinking, and saying verbs. (43b) and (44b) are ungrammatical because Mary no koto in these sentences is not the object of such verbs.

(43) a. John wa [Mary ga baka na] koto o siranai.
fool is that know-not
'John does not know that Mary is a fool.'
b. *John wa [Mary no koto ga baka na] koto o siranai.

(44) a. John wa [Mary ga rikoo na] koto o zimansite iru.
clever is that bragging is
'John is bragging of the fact that Mary is bright.'
b. *John wa [Mary no koto ga baka na] koto o zimansite iru.

Observe, now the following contrast.

(45) a. *John wa Mary no koto ga baka da to omotte ita.
fool is that thinking was
'John thought that Mary was a fool.'
b. John wa Mary no koto o baka da to omotte ita.[10]

(45a) is ungrammatical, but (45b) is not. This phenomenon is consistent with our hypothesis that Mary ga in (17a) is a constituent in the subordinate clause, but that Mary o in (17b) is the object of the matrix verb. I hypothesize that no koto is not in the deep structure for sentences such as (40b), (41b) and (42b), but that it is added to the object of feeling, thinking and saying verbs if it is human. This optional transformation applies after Subject Raising has applied to raise the constituent subject Mary of (17a) to the matrix object position.

§2.2 Evidence Against Equi NP Analysis

In the preceding, I have shown that Mary o in (17b) is a constituent of the matrix clause:

(17) a. John wa Mary ga baka da to omotte ita.
fool is that thinking was
b. John wa Mary o baka da to omotte ita.

In order to show that it is really an instance of Subject Raising, I would have to show that it is not an instance of Equi NP Deletion applied to the deep structure of (46):

(46) John wa Mary o [Mary ga baka da] to omotte ita.

It is not easy to argue against the Equi NP analysis of (17b) as it is not easy to argue against the Equi NP analysis of (1b) in English. As far as I know, there are only two arguments against the Equi NP analysis of (1b). First, observe the following sentence pairs:

(47) a. I expect the doctor to examine Mary.
b. I expect Mary to be examined by the doctor.

(48) a. I persuaded the doctor to examine Mary.
b. I persuaded Mary to be examined by the doctor.

Although (47a) and (47b) are synonymous, (48a) and (48b) are not. Thus, it would not do to assign the same deep structures to the expect and persuade patterns. Since the doctor and Mary in (48) represent the recipients of the persuasion, it is natural to have them as objects of the matrix clauses in the deep structure. On the other hand, on the assumption that Passivization does not change basic meaning, the synonymity of (47a) and (47b) can be most naturally accounted for by assuming that the deep structure did not have the doctor and Mary as matrix objects, but that they have been raised from the object complement by Subject Raising.

The second argument concerns sentences such as

(49) a. I expected there to be a riot.
b. I expected it to rain.

The noun phrase object of Equi NP verbs are animate, and they represent the recipients of the actions represented by the verbs. This semantically motivated generalization would be lost if (49a) and (49b) were to be derived from

(50) a. I expected there [there be a riot] .
b. I expected it [it rain] .

respectively, Note that

(51) a. *I persuaded there to be a riot.
b. *I persuaded it to rain.

are both ungrammatical due to this generalization.

More serious, however, is the status of dummy symbols such as there in the deep structure. All other indications are that there does not exist in the deep structure, but is inserted by a transformation in the course of derivation of sentences. Hypothesizing the deep structure of the type of (50a) clearly stands in conflict with this analysis.

The above two arguments against the Equi NP analysis of (1b) are rather convincing, although one wishes that there were many more arguments. Unfortunately, neither the first nor the second argument applies to Japanese. The pattern of (17b) is limited to those cases which have either adjectives or "Nominal + Copula" in the embedded clauses, so that it is not possible to contrast the active and passive versions to see if they are synonymous or not. Similarly, since Japanese does not have dummy subjects such as it and there, the patterns of (48) do not exist. Therefore, we have to look elsewhere for evidence for Subject Raising and against Equi NP Deletion in Japanese.

A. The Nature of the NP Object: Observe the following examples of Equi NP verbs:

(52) a. John wa Mary ni [sore o site kureru] koto o
to it doing give-him-
favor-of
kitaisite iru.
expecting is
'John expects that Mary will do it for him.'
b. John wa Mary ni [sore o suru] koto o meizita.
to it do that ordered
'John ordered Mary to do it.'

c. John wa Mary ni [kanozyo ga baka da] to itta.
to she fool is that said
'John told Mary that she is a fool.'

In all these sentences, Mary clearly represents the recipient of John's expectation, order, and statement. This 'recipient' meaning is completely lacking in Mary of (17b). When inanimate objects appear in the pattern of (52), we get ungrammatical sentences. On the other hand, the pattern of (17b) can involve inanimate objects without resulting in ungrammaticality.

(53) a. *John wa sono hon ni [yoku ureru] koto o
the book to well sell that
kitaisite iru.
expecting is
'John hopes that the book will sell well.'
b. John wa sono hon o [tumaranai] to omotta.
the book uninteresting-is thought
'John thought the book to be uninteresting.'

B. Case Marker: Secondly, observe that the objects in (52) are marked with ni, while the object in (17b) is marked with o. As far as I know, there are no Equi NP verbs whose noun phrase object is regularly marked with o.[11]

C. Preposing of the Object Complement: It is possible to prepose the complement clause of (52) to the left of Mary ni, but it is not possible to prepose the complement clause of (17b) to the left of Mary o. Observe the following contrast:

(54) a. John wa sore o site kureru koto o Mary ni kitaisite iru.
b. John wa sore o suru koto o Mary ni meizita.
c. John wa kanozyo ga baka da to Mary ni itta.

(55) *John wa baka da to Mary o omotte ita.

I do not understand what prevents the application of the scrambling rule to (17b) to produce (55). Whatever the reason may turn out to be, the grammaticality of (54) and the ungrammaticality of (55) clearly indicates that we have here two different structures.

D. Equi NP Deletion: Equi NP Deletion is not obligatory for the Equi NP verbs. Although the following sentences are less acceptable than (52), they are at worst marginal, and are not completely ungrammatical.

(56) a. ?John wa Mary ni[kanozyo ga sore o site kureru]
to she it doing
koto o kitaisite iru.
that expecting is
'(Lit.) John expects of Mary that she will do it for him.'

b. ?John wa Mary ni[kanozyo ga sore o suru]koto
to she it do
o meizita.
ordered
'(Lit.) John ordered Mary that she do it.'

On the other hand, it is totally impossible to use kanozyo ga for (17b):

(57) *John wa Mary o[kanozyo ga baka da]to omotte
she fool is that think-
ita.
ing was
'(Lit.) John thought of Mary that she was a fool.'

The above phenomenon can be automatically explained if we assume that (17b) is derived, not from (46) by Equi NP Deletion, but from (17a) by Subject Raising.

§2.3 A Peculiarity of Subject Raising in Japanese

In English, Subject Raising never applies to clauses whose main verbs are finite. Thus, although (58a) and (58b) are grammatical, (58c) and (58d) are not.

(58) a. I expect Mary to play the piano.
b. I saw Mary playing the piano.
c. *I expect Mary that will play the piano.
d. *I think Mary that is a genius.

The above characteristic is shared by most other languages that are known to have a rule of Subject Raising.[12]

The raising phenomenon in Japanese that we have been examining, on the other hand, involves clauses whose main verbs are finite. Baka da 'is a fool' in (17b) is in the present tense, and it is not possible to interpret it as an infinitive. I will give below some arguments for this analysis.

A. Sentence-final particles, as is implied by their name, can ordinarily appear only at sentence-final position. They cannot appear after infinitives. Observe the following examples:

(59) a. John wa oyogu koto ga dekiru yo/zo/no.
swim to can
'John can swim.'
b. *John wa oyogu yo/zo/no koto ga dekiru.

Yo, zo, and no are sentence-final particles meaning roughly "I am telling you". They can appear after finite verb dekiru 'can', as shown by the grammaticality of (59a), but not after infinitive oyogu 'swim', as shown by the ungrammaticality of (59b). Now, note that some of the sentence-final particles can appear after baka da of (17b):

(60) a. John wa Mary o baka da zo to omotta.
b. John wa Mary o baka da naa to omotta.

The yes-no question particle ka can appear in the same position, also.

(61) a. John wa Mary o baka ka to omotta.[13]
'John wondered if Mary was a fool.'

B. The constituent verb in (17b) is not restricted to the present tense. Future-tense forms can also appear.

(62) a. John wa Mary o hannin daroo to suiteisita.
culprit will-be guessed
'John guessed that Mary would be the culprit.'
b. John wa Mary o hannin de wa nakaroo to suitesita.
will-not-be
'John guessed that Mary would not be the culprit.'

The use of past-tense forms makes the pattern marginal, as shown in (63):

(63) ?John wa zibun o oroka na otoko datta to
self stupid man was
omotta.
thought
'John thought that he had been a stupid man.'

However, the use of past-tense forms in clearcut cases of infinitives yields far less acceptable sentences.

(64) a. John wa oyogu koto ga dekita.
swim to could
'John could swim.'
b. **John wa oyoida koto ga dekita.
swam to could

C. Various modals that represent the judgment of the subject of the main clause can appear in the pattern of (17b). Observe the following examples:

(65) a. John wa Mary o baka ni tigainai to omotta.
fool must-be thought
'John thought that Mary must be a fool.'
b. John wa Mary o baka ka mo sirenai to omotta.
if know-can-not
'John thought that Mary might be a fool.'
c. John wa Mary o baka de aru hazu ga nai to omotta.
expectation exist-not
'John thought that Mary couldn't be a fool.'

These forms can never appear as infinitives.

§3. Subject-Raising and Passivization

In the foregoing, I have shown that (17b) is an instance of Subject Raising from the object complement. What kind of verbs in Japanese can undergo Subject Raising? First, they must be verbs that take to-clauses as their complement --- namely, they must be verbs whose complements represent not any abstract facts, but indirect speech or internal feeling of their subjects. Among these verbs, those whose complements represent internal feelings are more likely to be able to enter the pattern of (17b), and those whose complements represent indirect speech are more likely not to be able to enter into the same pattern. (66) below gives examples of grammatical sentences and (67) those of ungrammatical sentences. Note that the verbs in (66) are all thinking and feeling verbs, and those in (67) are all saying verbs.

(66) a. John wa Mary o baka da to sinzita.
fool is believed
'John believed Mary to be a fool.'
b. John wa Mary o tensai da to kantigaisita.
genius mistook
'John mistook Mary for a genius.'
c. John wa Mary o hannin da to kateisita.
culprit hypothesized
'John hypothesized that Mary was the culprit.'
d. John wa Mary o hannin da to omoikonda.
believed erroneously
'John erroneously believed Mary to be the culprit.'

(67) a. *John wa Mary c baka da to itta.
fool said
'John said that Mary was a fool.'
b. *John wa sono hon o totemo omosiroi to
the book very interesting
tutaeta.
reported
'John reported that the book was very interesting.'
c. *John wa Mary o baka da to sitekisita.
pointed out
'John pointed out that Mary was a fool.'
d. *John wa Mary o baka da to nobeta.
stated
'John stated that Mary was a fool.'

In English, the raised subject can undergo Passivization. Observe the following sentences:

(68) a. They expect John to come.
b. John is expected to come.

On the other hand, it seems that the raised subject in Japanese cannot appear in pure passive sentences. The (b) sentences below clearly have the connotation of adversity passive.[14]

(69) a. John wa Mary o baka da to omotta.
fool is that thought
'John thought Mary to be a fool.'
b. Mary wa John ni baka da to omow-are-ta.
by think-Passive-ed
'To Mary's chagrin, John thought that she was a fool.'

(70) a. John wa Mary o tensai da to sinzita.
genius believed
'John believed Mary to be a genius.'
b. Mary wa John ni tensai da to sinzi-rare-ta.
'To Mary's chagrin, John thought that she was a genius.'

The fact that (69b) and (70b) are instances of adversity passives can be shown by the ungrammaticality of (71b). Note that adversity passives (but not pure passives) require that the matrix subject be human or higher animal:

(71) a. John wa sono hon o totemo omosiroi to omotta.
the book very interesting-is thought
'John thought that the book was very interesting.'

b. *Sono hon wa John ni totemo omosiroi to
omow-are-ta.
think-Passive-ed
'*To the book's chagrin, John thought that
it was interesting.'

I hypothesize that (69b) and (70b) are derived not from (69a) and (70a), but from the following deep structures:

(72) a. Mary(wa) [John(ga) Mary(ga) baka da to omow-u]$_S$
rare-ta.
Passive-ed
b. Mary(wa) [John(ga) Mary(ga) tensai da to sinzi-
ru]$_S$ rare-ta.[15]

Now compare (69), (70) and (71) with the following sentences.

(73) a. Mary wa baka da to omow-are-te iru.
fool is that think-Passive-ing is
'Mary is thought to be a fool.'
b. Mary wa tensai da to sinzi-rare-te iru.
genius believe-Passive-ing is
'Mary is believed to be a genius.'
c. Sono hon wa totemo omosiroi to omow-are-te iru.
the book very interesting-is-Passive-ing is
'The book is thought to be very interesting.'

These sentences are grammatical as pure passives. This can be seen by the acceptability of (73c), whose subject is not a human or higher animal. Note that these sentences are different from (69b), (70b) and (71b) in that the matrix predicate gives a generic statement, and does not represent a single action.

I claim that the sentences of (73) are derived, not from the active pattern of (69a) and (70a), but from the very peculiar passive pattern shown below:

(74) a. [John ga Mary o korosi-ta] to sinzi-rare-te
kill-ed believe-Passive-ing
iru.
is
'It is believed that John killed Mary.'
b. [Homer ga kono zyozisi o kaita] to omow-are-te
this epic wrote think-Passive-ing
iru.
is
'It is thought that Homer wrote this epic.'

(74a) and (74b) are pure passive sentences. I do not understand what status the to-clauses have in the sentences because to-clauses in general cannot be in the subject position. Whatever the analysis of these sentences might be, it is clear that they are grammatical in the interpretation in which John ga and Homer ga are the subjects of the to-clauses. Now, if (74a) and (74b) appear in the structures which have John wa and Homer wa as their themes, then the pure-passive sentences of the pattern of (73) will result.

There are three interesting features about the pattern of (74). First, these sentences become ungrammatical if their matrix predicates represent nongeneric actions. Observe the following:

(75) a. *[John ga Mary o korosi-ta] to Jane ni sinzi-rare-ta.
'It was believed by Jane that John killed Mary.'
b. *[Homer ga kono zyozisi o kaita] to Tom ni omow-are-ta.
'It was thought by Tom that Homer wrote this epic.'

The above phenomenon explains why (69b) and (70b) cannot receive the pure passive interpretation. Namely, their source sentences, which should be of the pattern of (75), are ungrammatical.

Second characteristic of (74) is that the predicate of the to-clause is not limited to adjectives or "Nominal + Copula". In (74) we have action verbs korosi-ta 'killed' and kaita 'wrote'. Recall that the pattern of (17b) is restricted to those cases in which the constituent predicates are adjectives or "Nominal + Copula".

(17) a. John wa [Mary ga baka da] to omotta.
'John thought that Mary was a fool.'
b. John wa Mary o baka da to omotta.

(76) a. John wa [Mary ga Bill o korosita] to sinzita.
killed believed
'John believed that Mary killed Bill.'
b. *John wa Mary o Bill o korosita to sinzita.

(77) a. John wa [Bill ga Boston ni itte simatta]
to has-gone
to omotta.
thought
'John thought that Bill had gone to Boston.'
b. *John wa Bill o Boston ni itte simatta to omotta.

If (73) are derived, as I claim, from the pattern of (74), then, it should be possible to have action verbs in the constituent predicate. This prediction is borne out by the following examples:

(78) a. Mary wa oozei no otoko o korosita to sinzi-
mary men killed believe-
rare-te iru.
Passive-ing is
'Mary is believed to have killed many men.'
b. Mary wa Boston ni itte simatta to omow-are-te
to has-gone think-Passive-ing
iru.
is
'Mary is thought to have gone to Boston.'

The grammaticality of (78) shows that the sources of these sentences are not the patterns of (76b) and (77b), which are ungrammatical. Thus, it gives additional support to my hypothesis that the pattern of (69a) and (70a) are not the source for the sentences of (73).

The third characteristic of the pattern of (74) is that verbs that cannot undergo Subject Raising can also enter into this pattern. Observe the following sentences:

(79) a. [John ga Mary o korosi-ta] to iw-are-te iru.
killed say-Passive-ing is
'It is said that John killed Mary.'
b. [Homer ga kono zyozisi o kaita] to tutae-rare-te
this epic wrote report-Passive-ing
iru.
is
'It is said that Homer wrote this epic.'

Recall that saying verbs such as iu 'say' and tutaeru 'report' cannot undergo Subject Raising, as shown by the ungrammaticality of (67).

If the sentences of (73) are derived, as I claim, from the pattern of (74), then, it should be possible to obtain pure passive sentences of the pattern of (74) for saying verbs, also. This prediction is also born out by the following:

(80) a. Mary wa baka da to iw-are-te iru.
fool is say-Passive-ing is
'Mary is said to be a fool.'
b. Mary wa oozei no otoko o korosita to
many men killed
tutae-rare-te iru.
report-Passive-ing is
'Mary is reported to have killed many men.'

In case the matrix predicates of the pattern of (80) represent nongeneric actions, we obtain sentences of adversity-passive connotation.

(81) a. Mary wa John ni baka da to iw-are-ta.
by fool is say-Passive-ed
'To Mary's chagrin, John said that she was a fool.'

b. Mary wa John ni tensai da to tutae-rare-ta.
by genius is report-Passive-ed
'To Mary's chagrin, John reported that she was a genius.'

c. *Kono hon wa John ni totemo omosiroi to
this book very interesting-is
iw-are-ta.
say-Passive-ed
'*To this book's chagrin, John said that it was very interesting.'

Note in particular, the ungrammaticality of (81c).

On observing that the sentences of (67) are ungrammatical, but that the sentences of (80) and (81) are grammatical, one might be tempted to make the generalization that in Japanese, as well as in English, there are verbs that can undergo Subject Raising on the condition that the raised subject be preposed to sentence-initial position by some later transformations. I have shown above that this generalization, which would be interesting if true, cannot be maintained. This is because there is evidence to indicate that the raised subject of Subject Raising verbs, even when the derived sentences are grammatical, cannot undergo Pure Passivization. I have shown that adversity passives involving feeling and saying verbs have nothing to do with the raised subject. I have also shown that pure passives involving generic statements are derived not from subject-raised sentences, but from peculiar subjectless pure-passive sentences of the pattern of (74), which are acceptable only when they represent generic statements.

Footnotes

* Research represented in this paper has been supported by the National Science Foundation Grant GS-2858 to Harvard University. The paper was written while I was a visitor at IBM Thomas J. Watson Research Center, Yorktown Heights, N.Y. I am greatly indebted to Paul Postal for sharing with me his views on Subject Raising in general, and asking me how it works in Japanese, thus forcing me to work on the subject matter.

1. Chomsky (to appear) claims that although Mary in (2b) is the subject of the main sentence, Mary in (1b) is still an element in the subordinate clause. There is, however, overwhelming evidence that Mary to come in (1b) does not constitute a subordinate clause (and for that matter, is not even a constituent), and that Mary is the object of expect, and therefore a constituent of the matrix clause. See Postal (1972) for details.

2. This generalization is related to three of Greenberg's (1967) language universals:

Universal 3: Languages with dominant VSO order are always prepositional.

Universal 4: With overwhelmingly greater than chance frequency languages with normal SOV order are postpositional.

Universal 12: If a language has dominant order VSO in declarative sentences, it always puts interrogative words or phrases first in interrogative word questions; if it has dominant order SOV in declarative sentences, there is never such an invariant rule.

3. Consider hypothetical sentences corresponding to

(i) a. John says that he believes that the world is flat.

b. That that the world is flat is obvious is dubious.

In VSO languages, these two statements will be realized as (ii) or (iii), depending upon whether conjunctions are placed clause-initially or clause-finally:

(ii) VSO Clause-Initial

a. Says John that [believes he that [is-flat world]].

b. Is-dubious that [is-obvious that [is-flat world]].

(iii) VSO Clause-Final

a. Says John [believes he [is-flat world] that] that.

b. Is-dubious [is-obvious [is-flat world] that] that.

Note that (ii) involves neither self-embedding nor conjunction-juxtaposition, while (iii) involves both. It is clear from the above that it is better to mark embedded clauses at clause-initial position for VSO languages.

In SOV languages, (i) is realized as (iv) and (v), depending upon whether conjunctions are placed clause-initially or clause-finally, respectively.

(iv) SOV Clause-Initial

a. John that [he that [world is-flat]] believes says.

b. That [that [world is-flat] is-obvious] is-dubious.

(v) SOV Clause-Final

a. John [he [world is-flat] that believes] that says.

b. [[World-is-flat] that is-obvious] that is-dubious.

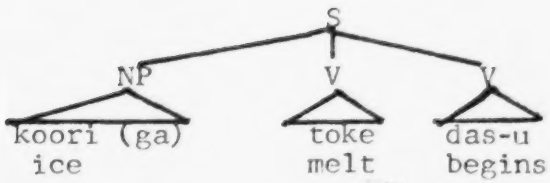
Both (iv-a) and (iv-b) involve self-embedding. (iv-b) also involves conjunction-juxtaposition, and (iv-a) would also result in conjunction-juxtaposition if he were deleted. On the other hand, (v-b) involves neither self-embedding nor conjunction-juxtaposition. (v-a) contains self-embedding but no juxtaposition of conjunctions. Thus, it is clear that for SOV languages, it is much better to mark clause-final boundaries than to mark clause-initial boundaries.

4. In other words, in SVO languages, Subject Raising from the subject complement is much more common than Subject Raising from the object complement. This generalization, as far as I know, was first made by Arlene Berman (personal communication, 1969).

5. French is an example of a language that has Subject Raising from the subject complement, but not from the object complement except for a few very restricted cases.

6. This fact has been pointed out to me by Postal (personal communication, 1972).

7. Assume that we had Subject Raising. After application of this rule to (11a), deletion of the tense marker -ru and subsequent application of tree-pruning rules, we would obtain the following intermediate structure:



It is still necessary to have a rule that attaches toke to das-u. But this is exactly what Verb Raising is intended for, and if this transformation is applied to (11a), we will obtain (11b) without necessitating Subject Raising.

8. See Kuno (to appear, Chapters 2, 3, 21, 22) for some aspects of Thematization and Focalization.

9. The above observation does not mean that Japanese does not have unbounded leftward movement rules. Observe, for example, the following:

(i) a. Mary wa [John ga sono hon o sutete simatta]
the book threw-away
to omotta.
thought
'Mary thought that John had thrown away the book.'

b. Sono hon o, John wa [Mary ga Ø sutete simatta] to omotta.

(ii) a. Kimi wa [John ga dare to kekkonsita] to
you who with married that
omoimasu ka?
think
'Who do you think John married?'

b. Dare to, kimi wa [John ga Ø kekkonsita] to omoimasu ka?

It is not clear why (27b) and (28b) are ungrammatical, while (i-b) and (ii-b) above are grammatical. It might be that the constraint is that the subjects of the matrix and constituent clauses may not switch word order.

10. I am indebted to Masayoshi Shibatani (personal communication, 1972) for calling the pattern of (45b) to my attention.

11. This statement does not apply when Verb Raising is involved. Observe the following causative sentence:

(i) John wa kodomo o benkyoos-ase-ta.
child study-make-ed
'John made the children study.'

I claim that (i) is derived from the underlying Equi NP structure:

(ii) John(wa) kodomo [kodomo(ga) benkyoosu-ru]
child child study
sase-ta.
make

After Equi NP Deletion, Aux Deletion, and Verb Raising, with subsequent application of tree pruning, we obtain the structure corresponding to

(iii) John(wa) kodomo benkyoos-ase-ta.
child study-make-ed

Now, since kodomo has come to occupy the position of the direct object of the compound causative benkyoos-ase, it is marked with the accusative particle o. This is why the deep structure noun phrase object kodomo of the Equi NP verb sase 'make' appears in the surface sentence with o, and not with ni.

12. I am indebted to Postal (1972) for this observation.

13. Da 'is' is deleted obligatorily before the yes-no question marker ka and certain other sentence-final particles.

14. See Kuno (to appear, Chapter 25) for the derivation of pure and adversity passives.

15. That Mary o in (69a) and (70a), in spite of the fact that it occupies the object position of the matrix sentences, cannot undergo Pure Passivization is consistent with at least one other phenomenon in Japanese. We have two causatives --- make-causative and let-causative.

(i) a. John wa Mary o benkyoos-ase-ta. (make-causative)
study-make-ed
'John made Mary study.'
b. John wa Mary ni benkyoos-ase-ta. (let-causative)
to study-let-ed

The behaviors of these two causatives provide evidence that make-causatives are derived from the deep structure that contains the noun phrase object in the matrix sentence (namely, by Equi NP Deletion), while let-causatives are derived from the deep structure that does not contain the noun phrase object (see Kuno (to appear, Chapter 27) for more details).

(ii) a. John(wa) Mary(o) [Mary(ga) benkyoosu-ru]$_S$
(make-causative)
b. John(wa) [Mary(ga) benkyoosu-ru]$_S$
(let-causative)

In other words, Mary o in (73a) is the object of the matrix verb (s)ase 'make' all through the derivation of the sentence, while Mary ni in (i-b) has come to occupy the object position of the matrix verb (s)ase 'let' due to Verb Raising applied to benkyoos 'study' and subsequent tree-pruning.

Now, observe the following passive sentence:

(iii) Mary wa John ni benkyoos-ase-rare-ta.
by study make/let-Passive-ed
'Mary was made by John to study.'

(iii) cannot mean that Mary was allowed (let) by John to study. Namely, (iii) is the passive of (i-a), but not the passive of (i-b). The generalization seems to be that Pure Passivization does not apply to the object noun phrase that was not in the same position in the underlying structure. Namely, the rule does not apply to the object produced either by Subject Raising or by Verb Raising (and subsequent tree-pruning).

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